

REMARKS

1. Claims 1-36 are pending and stand rejected. Reconsideration of this application is respectfully requested.
2. The disclosure stands objected to because the "RELATED APPLICATIONS" section is incomplete. In response, the specification has been amended to include the missing application serial nos. and filing dates. Accordingly, withdrawal of this objection is respectfully requested.
3. Claims 1, 2, 4-14, 16-26 and 28-36 stand rejected under 35 USC 102(e) as being anticipated by U.S. Patent 6,510,177 to De Bonet *et al.* (De Bonet).

The present invention is directed to a prediction-based enhancement layer that is coded to include interframe coded bi-directional B frames, which are motion-predicted from "extended" or "enhanced" base layer I and P or P and P reference frames during base layer coding. Each extended base layer reference frame comprises a standard base layer reference frame, and at least a portion of an associated enhancement layer reference frame, i.e., one or more bitplanes or fractional bit-planes of the associated enhancement layer reference frame can be used. The extended base layer reference frames of the present invention reduce temporal redundancy in the enhancement layer B frames.

Claim 1 is representative of the claims and recites a method of coding video comprising the steps of:

encoding an uncoded video to generate extended base layer reference frames, each of the extended base layer reference frames including a base layer reference frame and at least a portion of an associated enhancement layer reference frame; and

generating frame residuals from the uncoded video and the extended base layer reference frames.

De Bonet discloses a system and a method for encoding and decoding a high resolution video sequence using a low resolution base layer and a higher resolution enhancement layer. The

system has a video encoder that includes a base layer module that encodes a low resolution video sequence obtained from the high resolution video sequence, to create a base layer, an enhancement layer module that encodes the high resolution video sequence to create an enhancement layer that enhances the base layer, and an enhancement layer decoder that uses encoded base layer data to decode the enhancement layer.

The De Bonet system also has a video decoder that includes a base layer decoder module that decodes the base layer to generate a decoded, low resolution video, an enhancement layer decoder module that decodes the enhancement layer to enhance the resolution of the low resolution video, and motion vector data that is used with the decoded low resolution video to decode the enhancement layer.

The Office action states that De Bonet discloses “extended base layer frames” in Figure 9 wherein the inputted element 905 is the claimed “base layer reference frame” and inputted element 925 is the claimed “at least a portion of an associated enhancement layer reference frame.” The Office action further states that Figure 11A of De Bonet discloses the claimed extended base layer reference frames used during decoding in blocks 1124 and 1133.

Applicant respectfully disagrees with this reading of De Bonet, as block 925 in Figure 9 merely shows high resolution motion vectors which have been upsampled from motion vectors extracted from the base layer. The high resolution motion vectors are, therefore, not a portion of a coded enhancement layer reference frame, as claimed. Blocks 1124 (decoded motion vectors from base layer decoder) and 1133 (residual P-frames) in Figure 11A of De Bonet do not define the claimed extended base layer reference frames either.

Since De Bonet does not in any way describe the claimed extended base layer reference frames, claim 1 is not anticipated by De Bonet.

Claims 2, 4-14, 16-26 and 28-36 all require the generation of an extended base layer reference frame including a base layer reference frame and at least a portion of an associated enhancement layer reference frame, which is not in any way described by De Bonet. For at least this reason, claims 2, 4-14, 16-26 and 28-36 are also not anticipated by De Bonet.

Accordingly, withdrawal of the rejection under 35 USC 102(e) is respectfully requested.

4. Claims 3, 15 and 27 stand rejected under 35 USC 103(a) as being unpatentable over De Bonet in view of U.S. Patent 6,614,936 to Wu *et al.* (Wu).

Claims 3, 15, and 27 each require an extended base layer reference frame which includes a base layer reference frame and at least a portion of an associated enhancement layer reference frame. As discussed above, De Bonet fails to describe such a reference frame. The addition of Wu fails to cure this deficiency in De Bonet, as Wu also fails to describe the claimed extended base layer reference frame. For at least this reason, De Bonet in view of Wu fail to make unpatentable the subject matter of claims 3, 15, and 27.

Accordingly, withdrawal of the rejection under 35 USC 103(a) is respectfully requested.

5. Favorable reconsideration of this application is respectfully requested as it is believed that all outstanding issues have been addressed herein and, further, that claims 1-36 are in condition for allowance, early notification of which is earnestly solicited. Should there be any questions or matters whose resolution may be advanced by a telephone call, the examiner is cordially invited to contact applicants' undersigned attorney at his number listed below.

6. No fees are due as a result of this communication. The Commissioner is hereby authorized to charge payment of any additional filing fees required under 37 CFR 1.16 and any patent application processing fees under 37 CFR 1.17, which are associated with this communication, or credit any overpayment to Deposit Account No. 50-2061.

Respectfully submitted,



PAUL A. SCHWARZ

Duane Morris LLP
100 College Road West, Suite 100
Princeton, New Jersey 08540
(609) 919-4408 - telephone
(609) 919-4401 - facsimile
PTN45998.1